

Claim 28. (New) A matrix according to claim 26 wherein said binder is selected from the group consisting of soluble collagen, gelatin, polylactic acid, polyglycolic acid, copolymers of lactic and glycolic acid, polycaprolactone, carboxymethylcellulose, cellulose esters, dextrose, dextran, chitostan, hyaluronic acid, ficol, chondroitin sulphate, polyvinyl alcohol, polyacrylic acid, polypropylene glycol, polyethylene glycol, water-soluble polyacrylates and water-soluble polymethacrylates.

Claim 29. (New) A matrix according to claim 26 wherein said biopolymer fibers comprise fibrillar collagen.

Claim 30. (New) A matrix according to claim 26 wherein said mineral comprises calcium phosphate.

Claim 31. (New) A matrix according to claim 26 wherein said mineral comprises hydroxyapatite.

Claim 32. (New) A matrix according to claim 26 wherein said mineral consists of particles of a diameter of no greater than about five microns.

Claim 33. (New) A matrix according to any one of claims 26 through 32 further comprising autologous bone marrow.

Claim 34. (New) A matrix according to any one of claims 26 through 32 further comprising autogenous bone.

Claim 35. (New) A matrix according to any one of claims 26 through 32 further comprising one or more bone growth factors.

Claim 36. (New) A method of bone repair comprising the step of applying a composition comprising a porous, biodegradable, three-dimensionally fixed matrix comprising a bound network of water-insoluble biopolymer fibers, mineral and a water-soluble binder rendered insoluble by cross-linking wherein said mineral is immobilized within said matrix by said binder, in an amount effective to promote bone growth at a desired site of bone repair.

Claim 37. (New) A method according to claim 36 wherein said matrix has shape retention maintainable without fragmentation upon implantation.